



## RESIDENTIAL THERMAL CODE REQUIREMENTS

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**JUNEAU PERMIT CENTER, 4TH FLOOR MARINE VIEW CENTER**

### **CEILINGS**

### **R-49 MINIMUM REQUIRED**

- ◇ Roof areas or enclosed rafter spaces must be ventilated. The minimum required area of the vents is 1/150 of the area to be ventilated. See 2012 IRC Section 806 for reductions.
- ◇ Sidewalls of skylight wells shall have minimum wall insulation levels of R-19.
- ◇ Skylight areas shall be averaged with ceiling sections to equal overall U-value of 0.033 or less.
- ◇ Blown or spray types of insulation may be certified by the installing contractor to meet minimum standards when approved by the building official.

### **WALLS R-20 + R-5 Construction OR R-13 + R-10 Construction MINIMUM REQUIRED LARGER VALUE IN STUD CAVITY, SMALLER VALUE CONTINUOUS EXTERIOR OR INTERIOR INSULATION**

- ◇ Wall framing members at corners and at intersecting walls should allow for insulation to be installed behind the studs.
- ◇ Rim joists area of floors shall be insulated at exterior walls (R-19 minimum).

### **FLOORS**

### **R-30 MINIMUM REQUIRED**

- ◇ Floors over crawl spaces may be un-insulated if crawl space walls are insulated to a value of R-15 to at least 24" below grade and rim joists are insulated to R-19.
- ◇ Concrete slab on grade floors shall have R-10 perimeter insulation from top of slab to top of footing and then horizontally for a total distance of 4 ft.
- ◇ Floor areas that are exposed directly to outside air are to be insulated to R-38.
- ◇ All access and ventilation openings shall be closable in winter.

### **GLAZING**

### **U-0.32 MAXIMUM REQUIRED**

- ◇ Windows and sliding glass doors are limited to 15% of the exterior wall surface in 1 and 2 family dwellings and 25% in townhouses. Glass areas exceeding these limits may be allowed using the building envelope requirements of the 2012 International Energy Conservation Code.
- ◇ Exterior wall area includes all vertical surfaces exposed to weather, and includes rim joists, garage wall areas, and below grade warm wall areas.

## **OTHER REQUIREMENTS**

- ◇ All pipes subject to freezing and outside conditioned areas shall be protected from freezing. R-3 minimum insulation is recommended.
  
- ◇ Air handling ducts in areas without a positive heat supply such as attics and crawl spaces shall be insulated to a minimum of R-8.
  
- ◇ Vapor barriers with a perm rating of 1 or less shall be provided on the warm side of wall, ceiling and slab insulation.
  
- ◇ Outlet gaskets or equal shall be provided on all electrical penetrations of the exterior envelope.

## **Helpful Hints**

Excess humidity in tightly built homes can be a major source of aggravation here in Southeast Alaska. The proper application of a vapor retarder will protect the walls and ceilings of a home from moisture related damage. During cold weather it will quickly become apparent when moisture levels are too high because condensation will occur on cold windows or wall surfaces. Many factors influence the production of water in a home by its occupants. Cooking, bathing, breathing and indoor plants, are a few examples. There are a variety of sophisticated ventilation systems to deviate moisture problems.